

second time period from the first signal, and the second line driver may be connected for transmitting the third signal to the third device.

[0027] The device may further be operative for two way operation, and further may comprise a second line receiver coupled to the second connector for receiving a third signal from the second device, and a second line driver coupled to the first connector and to the second line receiver for transmitting the third signal to the first device. Further, the device may comprise a second timer coupled between the second line receiver and the second line driver for producing a fourth signal that is delayed by a second time period from the first signal, and further the second line driver may be connected for transmitting the third signal to the first device. The control circuit may be coupled to the second line receiver and the control signal may be generated in response to the third signal. The second signal may be carried over a first wire pair and the third signal may be carried over a second wire pair distinct from the first wire pair, or alternatively the second and third signals may be carried over the same single wire pair. In the latter case, the device may comprise a three-port circuit (which may be based on a hybrid circuit) coupled between the first line driver, the second line receiver and the second connector, and the three-port circuit may be operative to substantially pass only the second signal between the first line driver and the second connector and to substantially pass only the third signal between the second connector and the second line receiver.

[0028] The device may comprise a power source (which may be housed in the device single enclosure) for powering the first line receiver, the first line driver, and the first timer. The power source may be a primary type battery or a rechargeable type battery, and the battery may be housed in a battery compartment. Further, the battery may feed a DC/DC converter coupled to it. Alternatively or in addition, the device may be powered from an external power source such as domestic AC power outlet, and may further comprise a power connector for connecting to the power source and for powering the first line receiver, the first line driver, and the first timer from the power source. The device may further comprise an AC/DC adapter powered from the AC power outlet, and the AC/DC adapter may comprise a step-down transformer and an AC/DC converter for DC powering the device. Further, a payload (which may be in the single enclosure) may be coupled to the power connector for being powered from the external power source.

[0029] Alternatively or in addition, the device may be adapted for remote powering from the first device, wherein the first line receiver, the first line driver, and the first timer are coupled to be powered by a power signal from the first connector. The second connector may be also coupled to the power signal for supplying power to the second device. The power signal may be a DC power signal, and the device further may comprise a DC/DC converter powered by the DC power signal from the first connector. The device may further comprise a power supply powered from the power signal, for powering the first line receiver, the first line driver, and the first timer. The first signal may be carried over a first wire pair and the power signal may be carried over a second wire pair distinct from the first wire pair, or alternatively the first signal and the power signal may be carried concurrently over the same wires. In the latter case, the device may further comprise a power/data splitter/combiner coupled between the first line receiver, the first

connector and the power supply, the power/data splitter/combiner being operative to substantially pass only the first signal between the first line receiver and the first connector and to substantially pass only the power signal between the first connector and the power supply.

[0030] The power signal and the first signal are carried together over the same wires using Frequency Division Multiplexing (FDM), where the power signal is carried at a single frequency and the first signal is carried in a frequency band distinct from the single frequency. The power/data splitter/combiner may comprise a first filter operative to substantially pass only the single frequency and a second filter operative to substantially pass only the frequency band. Alternatively or in addition, the power/data splitter/combiner may comprise a center tap transformer and a capacitor connected between the transformer windings. In one aspect, the power signal and the first signal may be carried using a phantom channel, where the power signal is carried over the phantom channel formed by two center-tap transformers in the power/data splitter/combiner.

[0031] In one aspect of the invention, the device comprises a power source (which may be in the device single enclosure) for powering the first line receiver, the first line driver, and the first timer. The device may further comprise, or can be used with, a payload. The payload may be in the device single enclosure and may be powered from the power source. Alternatively or in addition, the device may comprise a payload connector connectable to the payload and being coupled to the power source for powering the payload from the power source. The device may further comprise electrically activated switch (connected to be activated by the control port) that is connected between the payload and the power source, for powering the payload upon activation of the electrically activated switch by the control port.

[0032] The device may further comprise a random signal generator connected for controlling a parameter in the device allowing for device random operation. The random signal generator may be based entirely on hardware and may be based on a physical process such as a thermal noise, a shot noise, decaying nuclear radiation, a photoelectric effect and a quantum phenomenon. Alternatively or in addition, the random signal generator may include software (such as an algorithm for generating pseudo-random numbers) and a processor executing the software, and may be coupled to the first timer for controlling the delay introduced by it. Further, the random signal generator may be coupled for controlling or activating the payload. The random signal generator may be activated only at power up of the device for generating a single output value, or activated upon receiving the first signal from the first line receiver. The random signal generator output may be used to activate a switch in the device. The device may further comprise a reference signal source (having analog or digital output) and a comparator (analog or digital) connected to provide a digital logic signal based on comparing the random signal generator output and the reference signal source output. The random signal generator may provide an analog or digital output, the reference signal source may provide an analog or digital signal output, and the comparator may be an analog or digital comparator. The device may be used to control multiple payloads and may comprise a plurality of reference signal sources and a plurality of comparators, wherein the comparators are connected to provide digital logic signals based on comparing the random signal generator output and the reference signal